

Claims

1. An apparatus for transmitting data blocks on a communications channel having a radio link between two stations including a user equipment, comprising:
 - 5 means for receiving first data blocks from the user equipment;
 - means for transmitting second data blocks to the user equipment; and
 - means for dynamically setting a polling interval for the transmission of polling messages to the user equipment after transmission of the second data blocks, the polling interval being set in accordance with at least one of: a size of one or more data blocks received by the apparatus from the user equipment, a size of one or more blocks transmitted from the apparatus to the user equipment, and a service to which the user equipment is subscribed.
- 10 2. The apparatus according to claim 1, wherein the polling message is an acknowledgement polling message.
- 15 3. The apparatus according to claim 1, wherein the means for dynamically setting a polling interval is adapted to set the polling interval for each user equipment independently.
4. The apparatus according to claim 1, wherein the means for dynamically setting a polling interval is adapted to set the polling interval for a group of user equipments.
- 20 5. The apparatus according to claim 4, wherein the group of user equipments is defined by a subscription to a service.
6. The apparatus according to claim 1, wherein the user equipment comprises one or more user equipments having a first priority and one or more user equipments having a second priority lower than the first priority, and the means for dynamically setting a polling interval is adapted to reduce the polling interval when the user equipments having a first priority are not transmitting.
- 25 7. The apparatus according to claim 1, further comprising a buffer means for buffering data blocks to be transmitted to the UE by the apparatus.
8. The apparatus according to claim 7, wherein the means for dynamically setting a polling interval is adapted to set the polling interval in accordance with an occupancy state of the buffer means.
- 30 9. The apparatus according to claim 1, wherein the user equipment is located in a radio coverage area of a cellular mobile radio network and the means for dynamically

setting a polling interval is adapted to set the polling interval in accordance with at least an estimated used transmission capacity value for the radio coverage area.

10. The apparatus according to claim 1, wherein the means for dynamically setting a polling interval includes a storage unit for storing information relating to user equipments.

5 11. The apparatus according to claim 10, wherein the storage unit includes data relating to any of: a user equipment identifier, a quality of service profile associated with a user equipment, a number of user equipments located within a geographical area.

12. The apparatus according to claim 1, wherein the means for dynamically setting a 10 polling interval is adapted to set the polling interval in accordance with a quality parameter of signals received over the radio link.

13. A cellular radio telecommunication network comprising one or more base stations in communication with one or more user equipments, the network comprising an apparatus for transmitting data blocks on a communications channel having a radio link between two stations including a user equipment, the apparatus comprising: 15 means for receiving first data blocks from the user equipment; means for transmitting second data blocks to the user equipment; and means for dynamically setting a polling interval for the transmission of polling messages to the user equipment after transmission of the second data blocks, the polling interval being set in accordance with at least one of: a size of one or more 20 data blocks received by the apparatus from the user equipment, a size of one or more blocks transmitted from the apparatus to the user equipment, and a service to which the user equipment is subscribed.

14. The cellular radio telecommunications network according to claim 13, wherein the 25 apparatus is a packet control unit which has a first input for data from an asynchronous interface and a second input for data from a synchronous interface.

15. A method for transmitting data blocks over a communications channel including a 30 radio link between two stations to and from a user equipment, comprising: receiving first data blocks from the user equipment; transmitting second data blocks to the user equipment; and dynamically setting a polling interval for the transmission of polling messages to the user equipment after transmission of the second data blocks, the polling interval being set in accordance with at least one of: a size of one or more data blocks

received by the apparatus from the user equipment, a size of one or more blocks transmitted from the apparatus to the user equipment, and a service to which the user equipment is subscribed.

16. The method according to claim 15, wherein the polling message is an acknowledgement polling message.
- 5 17. The method according to claim 15, wherein dynamically setting a polling interval comprises setting the polling interval for each user equipment independently.
18. The method according to claim 15, wherein dynamically setting a polling interval comprises setting the polling interval for a group of user equipments.
- 10 19. The method according to claim 15, wherein the user equipment comprises one or more user equipments having a first priority and one or more user equipments having a second priority lower than the first priority, and dynamically setting a polling interval comprises reducing the polling interval when the user equipments having a first priority are not transmitting.
- 15 20. The method according to claim 15, wherein the user equipment is located in a radio coverage area of a cellular mobile radio network and dynamically setting a polling interval comprises setting the polling interval in accordance with at least an estimated used transmission capacity value for the radio coverage area.